

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

GYRODATA INCORPORATED,	§	
	§	
Plaintiff,	§	
VS.	§	CIVIL ACTION NO. H-09-1005
	§	
GYRO TECHNOLOGIES, INC.; dba	§	
VAUGHN ENERGY SERVICES, <i>et al</i> ,	§	
	§	
Defendants.	§	

MEMORANDUM OPINION AND ORDER

I. INTRODUCTION

Before the Court is the plaintiff, Gyrodata Incorporated's ("Gyrodata") first amended application for preliminary injunction (Docket Entry No. 62), the defendants', Gyro Technologies, Inc. and Dataflow Measurement Systems, Limited (collectively, "Gyro Tech"), memorandum of law regarding issues presented in the application for preliminary injunction (Docket Entry No. 77), Gyrodata's memorandum of law in support of its application (Docket Entry No. 79), Gyro Tech's proposed findings of fact and conclusions of law (Docket Entry No. 111), Gyrodata's proposed findings of fact and conclusions of law (Docket Entry No. 115), and Gyro Tech's rebuttal to Gyrodata's proposed findings of fact and conclusions of law (Docket Entry No. 121). Also before the Court are the parties' responses, replies, memoranda and the testimony of witnesses. The Court, taking all matters under advisement, determines that Gyrodata's application for a preliminary injunction should be denied.

II. FACTUAL BACKGROUND

A. The '195 Patent and the Alleged Infringement

On September 15, 1998, United States Patent No. 5,806,195 (the '195 Patent), entitled "Rate Gyro Wells Survey System Including Nulling System," was issued to Gary Uttecht, James Brosnahan, Eric Wright and Greg Allen Neubauer. The patent was subsequently assigned to Gyrodata.

The '195 patent claims an oil and gas wellbore surveying tool that can map a borehole without being connected to a surface power supply or data connection. This is an improvement over past technologies because the unit does not rely on a wireline to operate. A wireline is a cable containing electrical and data wiring that runs from the surface to the surveying tool in the wellbore. The claimed invention utilizes rate gyroscopes and gravity sensors (e.g. accelerometers) to map the surveyed wellbore.

In the present suit, Gyrodata asserts that Gyro Tech's Gyroflex Navigator and Gyroflex Explorer surveying units infringe claims 53, 54, 55 and 56 of the '195 patent. Claim 53 is an independent claim and 54–56 are dependent claims. The claimed subject matter consists of:

53. An apparatus for measuring a sequence of data from within a well borehole, comprising:

(a) a sonde which is conveyed within said borehole, wherein said sonde comprises

- (i) a rate gyro comprising at least one axis,
- (ii) a power supply to operate said rate gyro,
- (iii) a memory for recording response of said rate gyro, and
- (iv) means for measuring the direction of gravity acting upon said sonde;

(b) a CPU for

- (i) combining a first and a second measurement from said rate gyro to obtain a measure of true north,
- (ii) combining a third and a fourth measurement from said rate gyro with said first and second measurements to reduce systematic instrument error in said measure of true north; and
- (iii) combining said measure of gravity direction and said measure of true north to obtain said measured sequence of data; and

(c) means for conveying said sonde within said well borehole.

54. The apparatus of claim 53 wherein said means for conveying said sonde comprises a slick line.

55. The apparatus of claim 53 wherein said means for conveying said sonde comprises a drill string.

56. The apparatus of claim 53 wherein said means for conveying said sonde comprises the force of gravity.

Pursuant the '195 patent's specification, a slickline is "a support line to enable the sonde to be lowered to the bottom of the well borehole," and a drill string is a line running into the borehole that is utilized to "change the drill bit [as] is periodically required." Neither of these lines have data or electrical wiring contained therein.

B. The Prior Art

Two pieces of prior art are of significance to the present discussion. Uttecht is an author of *Application of Small-Diameter Inertial Grade Gyroscopes Significantly Reduced Borehole Position Uncertainty* (the "SPE article"), which is a Society of Petroleum Engineers article published in 1983. The SPE article describes the design of, and results collected from, the Wellbore Surveyor (an early downhole survey tool produced by Gyrodata). The Wellbore Surveyor utilized a "rate gyro and accelerometer to measure earth forces at each survey station." "As a result [of the unit's design], major systematic errors such as geographical reference and unaccountable drift [were] eliminated." The surveying mechanism was connected to the surface via a wireline.

Second, the Ferranti FINDS wellbore surveyor (the "Ferranti tool") was described in the article *High Accuracy Directional Surveying of Wells Employing Inertial Techniques* by D.G.

Morgan and A. Scott (Offshore Technology Conference, 1979).¹ The Ferranti tool was an inertial navigation system that derived its survey measurements from accelerometer readings and utilized gyroscopes to detect tool misalignment. The system utilized rate integrating gyroscopes, as opposed to the high accuracy rate gyroscopes utilized in the '195 patent and the SPE article. Due to the large diameter of the unit, the Ferranti tool was limited in how deep it could survey (because wellbores become narrower as they become deeper). The Ferranti tool was conveyed into a wellbore utilizing a slickline and it contained an onboard power supply (battery). This setup eliminated the need to utilize a wireline.

III. CONTENTIONS OF THE PARTIES

A. Gyrodata's Contentions

Gyrodata asserts that this Court should approve its application for a preliminary injunction. Initially, it argues that it is likely to succeed on the merits at trial with regard to the validity and enforceability of its patent and with regard to infringement by Gyro Tech. Gyrodata also asserts that it will be irreparably harmed should a preliminary injunction not issue, that the balance of potential harms to each party favors issuance, and that public policy favors issuance. Lastly, Gyrodata sets forth several proposed claim constructions, including that, with regard to the "means for measuring the direction of gravity acting upon said sonde," the function is "measuring the direction of gravity acting upon said sonde" and "[t]he corresponding structure includes 'one or more accelerometers' and structural equivalents.'"

B. Gyro Tech's Contentions

Gyro Tech asserts that a preliminary injunction is improper. Initially, Gyro Tech advocates the following claim constructions: (1) "CPU" means a unit that is "onboard the tool,

¹ For prior art purposes, all references to the "Ferranti tool" are intended to refer to the "Ferranti tool, as disclosed in *High Accuracy Directional Surveying of Wells Employing Inertial Techniques*."

is insertable into the borehole, and is capable of performing all three functions described in Claim 53[b],” (2) the “means for conveying said sonde within said borehole” includes a slickline, a combination of a slickline and a drill string and equivalents thereof and (3) the “means for measuring the direction of gravity acting upon said sonde” includes “two accelerometers that measure the direction of gravity acting upon said sonde, and equivalents thereof.” Further, Gyro Tech argues that Gyrodata is unlikely to establish at trial that the accused products infringe the ‘195 patent. Gyro Tech also maintains that it has raised substantial questions regarding the validity of the ‘195 patent and therefore, Gyrodata has failed to show that it is likely to succeed on the merits at trial. Lastly, Gyro Tech asserts that no irreparable harm will befall Gyrodata should a preliminary injunction not issue.

IV. STATEMENT OF AUTHORITIES

The Supreme Court has held that equitable injunctive relief is available to a party in patent infringement cases to prevent violation of any right secured by a patent. *See eBay Inc. v. Merc-Exchange, LLC*, 547 U.S. 388, 391–92 (2006). The Patent Act provides that “[t]he several courts having jurisdiction of cases under this title may grant injunctions in accordance with the principles of equity to prevent violation of any right secured by [a] patent” 35 U.S.C. § 283. The form and scope of an injunction is governed by Federal Rule of Civil Procedure 65(d), which provides in part that:

[e]very order granting an injunction and every restraining order shall set forth the reasons for its issuance; shall be specific in terms; shall describe in reasonable detail, and not by reference to the complaint or other document, the act or acts sought to be restrained

“[A] preliminary injunction is a drastic and extraordinary remedy that is not to be routinely granted.” *Kothmann & Kothmann, Inc. v. Trinity Indus., Inc.*, 287 F. Supp. 2d 699, 708 (S.D. Tex. 2002) (quoting *Intel Corp. v. ULSI Sys. Tech., Inc.*, 995 F.2d 1566, 1568 (Fed. Cir.

1993)). “However, statements that a preliminary injunction is a drastic and extraordinary remedy do not imply that it must be rare or practically unattainable, only that it is not granted as a matter of right; it must be thoroughly justified.” *Polymer Techs., Inc. v. Bridwell*, 103 F.3d 970, 977 (Fed. Cir. 1996).

“A district court may enter a preliminary injunction [in a patent case] based on its consideration of four factors: ‘(1) the likelihood of the patentee's success on the merits; (2) irreparable harm if the injunction is not granted; (3) the balance of hardships between the parties; and (4) the public interest.’”² *Abbott Labs. v. Sandoz, Inc.*, 566 F.3d 1282, 1298 (Fed. Cir. 2009) (quoting *Erico Int'l Corp. v. Vutec Corp.*, 516 F.3d 1350, 1353–54 (Fed. Cir. 2008)); *see also* Aaron Homer, Comment, *Whatever It Is . . . You Can Get It on eBay . . . Unless You Want an Injunction - How the Supreme Court and Patent Reform Are Shifting Licensing Negotiations from the Conference Room to the Courtroom*, 49 S. Tex. L. Rev. 235, 250 (2007). While the party seeking a preliminary injunction bears the burden of establishing its entitlement to relief, “the court views the matter in light of the burdens and presumptions that will inhere at trial.” *Titan Tire Corp. v. Case New Holland, Inc.*, 566 F.3d 1372, 1376 (Fed. Cir. 2009); *Hoop v. Hoop*, 279 F.3d 1004, 1007 (Fed. Cir. 2002). “Although the factors are not applied mechanically, a movant *must establish the existence of both of the first two factors* to be entitled to a preliminary injunction.” *Altana Pharma AG v. Teva Pharms. USA, Inc.*, 566 F.3d 999, 1005 (Fed. Cir. 2009) (citing *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1350 (Fed. Cir. 2001)) (emphasis added). Accordingly, “[a] patent holder seeking a preliminary injunction bears the ultimate burden of establishing a likelihood of success on the merits with

² “The standard for a preliminary injunction is essentially the same as for a permanent injunction with the exception that the plaintiff must show a likelihood of success on the merits rather than actual success.” *Amoco Prod. Co. v. Village of Gambell, AK*, 480 U.S. 531, 546 (1987); *Erico Intern. Corp. v. Vutec Corp.*, 516 F.3d 1350, 1357 (Fed. Cir. 2008) (Newman, J., dissenting).

respect to the patent's validity.” *Altana Pharma AG v. Teva Pharms. USA, Inc.*, 566 F.3d 999, 1006 (Fed. Cir. 2009).

V. ANALYSIS AND FINDINGS OF FACTS

In order to satisfy the first factor for a preliminary injunction—a likelihood of success on the merits—a plaintiff “must show that it will likely prove that [the defendant] infringes at least one *valid and enforceable* patent claim.” *Abbott Labs. v. Andrx Pharms., Inc.*, 473 F.3d 1196, 1201 (Fed. Cir. 2007) (citing *Pfizer, Inc. v. Teva Pharms., USA, Inc.*, 429 F.3d 1364, 1372 (Fed. Cir. 2005)) (emphasis added). As such, “if the accused infringer raises ‘a substantial question regarding validity,’ the district court should find that the patentee has not shown a likelihood of success on the merits.” *E.I. du Pont de Nemours & Co. v. MacDermid Printing Solutions, L.L.C.*, 525 F.3d 1353, 1358 (Fed. Cir. 2008). “It is important to note that ‘[t]he showing of a substantial question as to invalidity . . . requires less proof than the clear and convincing showing necessary to establish invalidity itself’ at trial.” *Entegris, Inc. v. Pall Corp.*, 490 F.3d 1340, 1351 (Fed. Cir. 2007) (quoting *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1350 (Fed. Cir. 2001)). Ultimately, “the patentee seeking a preliminary injunction in a patent infringement suit must show . . . that it will likely withstand challenges, if any, to the validity of the patent.” *Titan Tire Corp. v. Case New Holland, Inc.*, 566 F.3d 1372, 1376 (Fed. Cir. 2009).

A. Obviousness

Gyro Data alleges that the ‘195 patent is invalid because it is obvious in light of the SPE paper and the Ferranti tool. *See* 35 U.S.C. § 103. “Obviousness relates to whether the claimed invention would have been obvious at the time it was invented to a person of ordinary skill in the relevant art.” *Ascend Geo, LLC v. OYO Geospace Corp.*, No. H-09-2886, 2009 WL 3735963, at *2 n.3 (S.D. Tex. Nov. 4, 2009) (citing *Lucent Tech., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1310

(Fed. Cir. 2009)). “To establish a prima facie case of obviousness, there must be a showing of a teaching in the prior art that would lead one of ordinary skill to combine the relevant teachings of the prior art references [to create the claimed invention.]” *Lencco Racing Co., Inc. v. Jolliffe*, 10 Fed. Appx. 865, 869 (Fed. Cir. 2001) (citing *Tec Air, Inc. v. Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 1359–60 (Fed. Cir. 1999)) (unreported opinion). Further, the Supreme Court has stated:

When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, [that success] is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious

KSR Intern. Co. v. Teleflex Inc., 550 U.S. 398, 421 (2007). “Although predictability is a touchstone of obviousness, the [predictability] discussed in KSR refers not only to the expectation that prior art elements are capable of being physically combined, but also that the combination would have worked for its intended purpose.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1326 (Fed. Cir. 2009) (citing *KSR*, 550 U.S. 398 (2007)).

Initially, Gyro Tech asserts that most of the limitations in claim 53 are present in the SPE Paper. It states that the preface of claim 53 (“An apparatus for measuring a sequence of data from within a well borehole”) is found in Figure 5 of the SPE paper (disclosing a “north reference system as configured for a wellbore survey”). Gyro Tech maintains that the sonde (claim 53(a)) is disclosed in the phrase “encased in a 2½-inch diameter pressure barrel.” Further, with regard to limitations 53(a)(i–iv), Gyro Tech points to the following disclosures in the SPE paper: (1) the use of a “two-axis sensor” (gyro), (2) the “power supply” in Figure 5, (3) the fact that “[r]aw survey data is acquired at the gyro and accelerometer output axes, and these signals are filtered, digitized, and processed by a microprocessor before going uphole” and (4) the disclosure that “[t]he accelerometer senses a component of gravity on the two sensitive axes” (as

disclosed in Figure 3). Lastly, Gyro Tech states that the limitations in 53(b) are found in the below disclosure from the SPE paper:

At each station, the sensors take hundreds of output readings which are evaluated and averaged into one in the micro-processor After one set of readings is taken, the X and Y gyro and accelerometer sensors are rotated 180 degrees to the opposite polarity without disturbing the gyro spin axis. Another set of readings is then taken with the tool in the same orientation. By comparing the two sets, measure bias can be identified and factored out.

In rebuttal, Gyrodata asserts that the SPE paper does not disclose a surveying unit that operates on battery power and without a wireline. Specifically, Gyrodata states that the SPE paper does not disclose “information designed to solve the problems . . . regarding how to develop [a surveyor that does not] rely on wireline for power, communication, or conveyance.” Gyrodata further alleges that Gyro Tech has not proffered prior art “that a person of ordinary skill in the art would reasonably examine to solve the [aforementioned] problems faced by the inventors” While disagreeing with Gyrodata’s final conclusion regarding obviousness, Gyro Tech agrees that the outcome determinative issue is “the obviousness (or lack thereof) of modifying the tool described in the SPE paper to include an onboard power source . . . and running that tool on a slickline [instead of a wireline].”

With regard to the elements of the present invention not disclosed in the SPE paper, the Court looks to the Ferranti tool, as set forth in the article *High Accuracy Directional Surveying of Wells Employing Inertial Techniques*. The Ferranti tool was an inertial navigation system that derived its survey measurements from accelerometer readings and utilized gyroscopes to detect tool misalignment. This device was conveyed into a wellbore utilizing a slickline, it contained an onboard power supply (battery) and it did not necessitate the use of a wireline.

Unlike the ‘195 patent, the Ferranti tool utilized a *rate integrating gyroscope*, as opposed to a *rate gyroscope*. Premised upon this distinction, Gyrodata asserts that “[a] person having

ordinary skill in the art would not consider [the Ferranti tool to be relevant] to the invention in Claims 53, 54, 55, or 56 of the '195 Patent.” Accordingly, it argues that the Ferranti tool cannot be considered as prior art for obviousness purposes. The Court disagrees.

Both the Ferranti tool and the present invention belong in the same technological field—tools for wellbore surveying. Gyrodata’s attempts to distinguish the technological fields (i.e. rate gyroscopes v. rate integrating gyroscopes) define the fields of invention much too narrowly. A person with ordinary skill in the art (wellbore surveying) is likely to appreciate technology that would encompass both the ‘195 patent and the Ferranti tool. This conclusion is supported by the fact that the technologies represent two distinct options within a single field of endeavor. This conclusion is further supported by the testimony of multiple industry members who, in their testimony, asserted a familiarity with both the ‘195 patent and the Ferranti tool. For the present inquiry, this is sufficient evidence to establish that one of ordinary skill in the art would have considered the Ferranti tool relevant to the ‘195 invention.

Besides establishing that the prior art references are in the same technological field and set forth the elements of the claimed invention, “[a] party seeking to invalidate a patent based on obviousness must demonstrate . . . that a skilled artisan would have been motivated to combine the teachings . . . to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.” *Procter & Gamble Co. v. Teva Pharms. USA, Inc.*, 566 F.3d 989, 994 (Fed. Cir. 2009) (quoting *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1361 (Fed. Cir. 2007)) (internal quotation marks omitted). The motivation to combine the technology described in the SPE paper with a battery pack without a wireline was described in Uttecht’s testimony, which provided:

[Counsel for Gyrodata: F]rom 1983 up until about 1993 when you went to market with . . . the '195 apparatus, . . . what was the demand in the industry for something to be operated in this field without a wireline?

[Uttecht:] Well, I believe that the demand was fairly great. I mean, obviously, there—the wireline unit required additional people, additional equipment. It kind of cluttered the rig floor. You have a limited amount of space there. So there was—there was a direct requirement for a battery-operated tool

Having evidenced the motivation to create a wireless surveyor, the next burden is establishing that “the skilled artisan would have had a reasonable expectation of success in doing so.” As described below, the creation of the ‘195 invention did not require expertise outside of the knowledge of one of ordinary skill in the art, and as such, the Court believes that this burden is satisfied.

Gyrodata has set forth the problems overcome in creating the ‘195 invention. In example, it stated that:

The problems the inventors faced included (a) how to provide sufficient power to the downhole system to drive the true-north-seeking rate gyro to its peak and sustain consistent operation through a full run; (b) how to provide enough memory and processing to handle the information obtained from the true-north-seeking rate gyroscope and accelerometer(s) downhole; and, (c) how to keep the sensitive true-north-seeking rate gyro from losing its accuracy and being damaged if it was to be conveyed without wireline.

As discussed below, none of these problems required a resolution that a skilled artisan would not have had a reasonable expectation of overcoming.

Initially, with regard to the power supply (the onboard battery), Uttecht testified that one of ordinary skill in the pertinent art could design an appropriate battery pack for the ‘195 invention. Likewise, Gyrodata asserted that “[t]he power supply [of the present invention] does not need to be explained to those skilled in the art.” With regard to the CPU, Gyrodata has not described any experimentation that was required to address the memory and processing requirements of the claimed invention. Moreover, no specific requirements of the CPU were

disclosed in the '195 patent (evidencing that one of ordinary skill in the art would appreciate what hardware was necessary). Lastly, with regard to the sensitivity of the gyro, Brosnahan testified that he asked the gyro manufacturer to alter the gyro (to deal with heat limitations) and he added O-rings to the unit (to deal with shock problems). He further testified that the addition of O-rings would have been known to one in the industry. Based upon these considerations, the Court believes that the one of ordinary skill in the art would have had a reasonable expectation of success in combining the Ferranti tool and the SPE paper to come to the '195 invention. Lastly—premised upon testimony regarding the methods of conveying a sonde into a wellbore, the fact that the Ferranti tool did not use a wireline, and the fact that Gyrodata has not presented arguments pertaining to the use of a slick line or a drill string—the Court believes that the limitations pertaining to conveyance of the sonde into the wellbore would have been equally obvious.³

Thus, as discussed above, it would appear that Gyro Tech has raised substantial questions regarding the validity of the '195 patent, and therefore, Gyrodata has failed to show that it is likely to succeed on the merits at trial. However, Gyrodata asserts that several secondary indicia

³ This conclusion is supported by the Federal Circuit case of *New England Braiding Co., Inc. v. A.W. Chesterton Co.*, 970 F.2d 878 (Fed. Cir. 1992). In pertinent part, *New England Braiding* provided:

At this preliminary [injunction] stage, the trial court does not resolve the validity question but rather must, as the court did here, make an assessment of the persuasiveness of the challenger's evidence, recognizing that it is doing so without all evidence that may come out at trial. The district court cannot be held to have erred in deciding that the patentee failed to make a sufficient showing of likelihood of success required to support a preliminary injunction where the evidence presented in support of invalidity raises a substantial question, although the defense may not be entirely fleshed out. Given the time constraints within which an accused infringer must usually respond with evidence to a motion for preliminary injunction, in this case within a few weeks, a fully comprehensive presentation of its defenses cannot reasonably be required. Because severe time constraints are usual, the Supreme Court has recognized that a motion for a preliminary injunction must customarily be decided "on the basis of procedures that are less formal and evidence that is less complete than in a trial on the merits." Indeed, such a record does not usually allow for a reliable resolution of the merits. While it is not the patentee's burden to prove validity, the patentee must show that the alleged infringer's defense lacks substantial merit.

Id. at 882–83 (footnotes and internal citations omitted).

of nonobviousness weigh against a finding of invalidity under § 103(a).⁴ While the Court recognizes that secondary considerations may militate against a finding of obviousness, the present considerations are unlikely to preclude a finding of obviousness in the current case. *See Rothman v. Target Corp.*, 556 F.3d 1310, 1322 (Fed. Cir. 2009) (“[A] strong prima facie obviousness showing may stand even in the face of considerable evidence of secondary considerations.”).

B. Secondary Considerations of Nonobviousness

Initially, Gyrodata asserts that a finding of obviousness may be defeated “by showing that the prior art teaches away from the claimed invention in any material respect.” *In re Peterson*, 315 F.3d 1325, 1331 (Fed. 2003) (citing *In re Geisler*, 116 F.3d 1465, 1469 (Fed. Cir. 1997)).

To this end, it states that:

By 1987, the industry was teaching away from running gyros on anything but wireline because of their sensitivity. *See* Plaintiff Exh. 51 at 113 (instructing in 1987 that “[u]nlike a magnetic single shot, a gyro must be run on wireline, since the sensitive mechanism could easily be damaged.”); 114 (teaching in 1987 that “Gyroscope devices are too sensitive to be used for this application [(mwd)]”), and 122-123 (teaching in 1987 that “[i]n areas where there is a need for high accuracy surveys, a new generation of gyroscope instruments is now being employed...referred to as ‘rate gyros’...the probe is run down the hole on conductor line...signals are sent from the prove via the conductor line to the surface computer...”); Tr. (Uttecht) at 1-130:5-12; Tr. (Brosnahan) 2-140:11-20; Tr. (Wallis) at 3-17:15-20 (wireline systems were seen as “a bit of a revolution”); Tr. (Wallis) at 3-126:6 – 3-127:1 (when Gyrodata, Scientific, and Sperry developed their wireline based tools, the market was moving away from free gyro tools); Tr. (Wallis) at 3-23:9-24 (in 1999, Black Warrior, the company Gary Vaughn worked for, approached Wallis because they “wanted to effectively start to compete with the existing suppliers of [wireline-based rate gyro surveying] services, namely Gyrodata and Scientific Drilling.”

On this issue, the Federal Circuit has provided that:

⁴ Secondary indicia that an invention is not obvious may include commercial success of the invention, the invention addresses a long but unsolved need and previous failures by other to address the problem solved by the invention. *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17 (1966).

A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. The degree of teaching away will of course depend on the particular facts; in general, a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant.

* * *

Although a reference that teaches away is a significant factor to be considered in determining unobviousness, the nature of the teaching is highly relevant, and must be weighed in substance.

In re Gurley, 27 F.3d 551, 553 (Fed. Cir. 1994). Further, “obviousness must be determined in light of all the facts, and there is no rule that a single reference that teaches away will mandate a finding of nonobviousness.” *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006). Lastly, obviousness depends on “whether the subject matter of the claimed invention ‘would have been obvious *at the time the invention was made* to a person of ordinary skill in the art to which [the subject matter of the invention] pertains.’” *PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342, 1359 (Fed. Cir. 2007) (quoting 35 U.S.C. § 103(a)) (emphasis added).

Under the pertinent standard, Gyrodata has not established that the prior art teaches away from “running gyros on anything but wireline because of their sensitivity.” As set forth above, the pertinent issue is whether *at the time of invention* a person having ordinary skill in the art would believe that gyro sensitivity required the use of a wireline.

An evaluation of the Brosnahan’s testimony establishes that such a person would not hold this belief. Initially, when speaking about accounting for the sensitivity of the gyros contained in the claimed invention, Brosnahan stated:

[Counsel for Gyro Tech:] “The present [invention] utilizes a rate gyro, 24. The rate gyro [utilized in the claimed invention] is enclosed in a suitable housing.”

Are you with me?

[Brosnahan:] Yes.

Q Okay. Now, in [the '195 patent,] did you disclose anything that you had to do with the three gyroscopes that you had worked with to address the issue of shock resistance?

A Well, I disclosed it to our patent attorney.

Q Okay. And it didn't make it into the ultimate patent, right?

A Well, I mean, you could say suitable housing --

Q Okay. So it tells you suitable housing but it doesn't provide any specifics of the suitable housing that you had developed for your gyroscopes?

A Well, I would say suitable housing in the oil industry would probably mean that you put O Rings on it so --

Q Okay, fair enough. And like -- and this passage that we have just looked at describing the rate gyro, it doesn't mention cycling or any of the other things that you did with the gyroscopes to enhance the temperature resistance, does it?

A No.

Thus, as previously discussed, Brosnahan testified that in order to deal with the issue of shock resistance he relied on O-Rings, which were known in the industry. Further, with regard to the issue of heat resistance, Brosnahan testified that he simply requested that the gyros be manufactured with higher heat tolerance.

This evidence is inconsistent with assertions that, at the time of invention, "a person of ordinary skill . . . would be led in a direction divergent from the path that was taken by the applicant." In fact, this evidence establishes that, with regard to the issue of using gyros without a wireline, temperature and shock absorption concerns were addressed utilizing technology that was known in the industry. Thus, there is no "teaching away" from the claimed invention that would militate against a finding of obviousness.

Furthermore, to the extent that Gyrodata argues the presence of other secondary indicia of nonobviousness, e.g. a long-felt need and the failure of others, the Court finds that either the cited evidence does not support the contentions or the proffered evidence would not preclude a finding of obviousness. As noted above, sometimes a "strong prima facie obviousness showing may stand even in the face of considerable evidence of secondary considerations." *Rothman v. Target Corp.*, 556 F.3d 1310, 1322 (Fed. Cir. 2009).

C. Claim Construction Issues

Lastly, the Court notes that, while the parties disagree about the construction of the limitations in the '195 patent, only one construction is pertinent to the present discussion. However, as discussed below, the outcome of this preliminary injunction analysis is the same, regardless of which party's construction is adopted. Accordingly, the Court will decline to rule on this issue at this time.

"The construction of patent claims is a matter of law exclusively for the court. Accordingly, when the parties dispute the meaning of particular claim terms, the court should consider the parties' proposed definitions, but must independently assess the available evidence and declare the meaning of the disputed terms."⁵ *Automated Bus. Cos. v. ENC Tech. Corp.*, No. H-06-1032, 2009 WL 3674507, at *2 (S.D. Tex. Oct. 30, 2009) (internal citations omitted). "We begin a claim construction analysis by considering the language of the claims themselves. However, claims must be read in view of the specification, of which they are a part." *Edward Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1327 (Fed. Cir. 2009) (internal quotation marks and citations omitted).

The parties agree that the limitation "means for measuring the direction of gravity acting upon said sonde" is a means plus function limitation under 35 U.S.C. § 112, ¶ 6. However, they disagree upon the proper construction of the limitation.

"A means-plus-function limitation recites a function to be performed rather than definite structure or materials for performing that function." *Lockheed Martin Corp. v. Space Sys./Loral, Inc.*, 324 F.3d 1308, 1318 (Fed. Cir. 2003) (citing *Chiuminatta Concrete Concepts, Inc. v.*

⁵ "[D]istrict courts may engage in 'rolling claim construction, in which the court revisits and alters its interpretation of the claim terms as its understanding of the technology evolves.'" *Conoco, Inc. v. Energy & Envtl. Intern., L.C.*, 460 F.3d 1349, 1359 (Fed. Cir. 2006) (quoting *Guttman, Inc. v. Kopykake Enters., Inc.*, 302 F.3d 1352, 1361 (Fed. Cir. 2002)).

Cardinal Indus., Inc., 145 F.3d 1303, 1308 (Fed. Cir. 1998). With regard to construction of such limitations, the Federal Circuit has stated:

“The first step in construing such a limitation is to identify the function of the means-plus-function limitation.” *Texas Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1208 (Fed. Cir. 2002). “The next step is to identify the corresponding structure in the written description necessary to perform that function.” *Id.* ““Structure disclosed in the specification is “corresponding” structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.”” *Id.* (quoting *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1424 (Fed. Cir. 1997)).

Minks v. Polaris Indus., Inc., 546 F.3d 1364, 1377 (Fed. Cir. 2008). However, a means plus function limitation “is not limited to the embodiment or embodiments disclosed in the specification. It also encompasses all equivalents to the disclosed structure.” *Zimmer, Inc. v. Howmedica Osteonics Corp.*, 111 Fed. Appx. 593, 598 (Fed. Cir. 2004) (citing 35 U.S.C. § 112; *Utah Med. Prods., Inc. v. Graphic Controls Corp.*, 350 F.3d 1376, 1381 (Fed. Cir. 2003)).

Both parties assert that the function of this means plus limitation is “measuring the direction of gravity acting upon said sonde,” but they diverge with regard to what the corresponding structure is. Gyro Tech states that the corresponding structure is two accelerometers or the structural equivalent. In contrast, Gyrodata maintains that the corresponding structure is one or more accelerometers and structural equivalents.

As discussed above, Gyro Tech has raised a substantial question regarding whether the ‘195 patent is obvious. This finding is possible only if, as a threshold matter, the prior art discloses all of the limitations of the ‘195 invention, including a “means for measuring the direction of gravity acting upon said sonde.” The SPE paper presents a single accelerometer. Therefore, the pertinent question is whether the SPE paper discloses the “means for measuring the direction of gravity acting upon said sonde” limitation.

Gyrodata's construction of the disputed limitation is clearly disclosed by the accelerometer in the SPE paper. Specifically, Gyrodata asserts that the disputed limitation includes *one or more accelerometers* (as is disclosed in the SPE paper).

In contrast, the SPE paper's single accelerometer would not fall into the explicit scope of Gyro Tech's construction because that construction requires *at least two accelerometers*. However, the SPE paper's single accelerometer is equivalent to the multiple accelerometers in the '195 patent. "Equivalence, for purposes of § 112, ¶ 6, requires that the accused device perform the identical functions as plaintiff's device and be otherwise insubstantially different with respect to structure." *Jackson v. Casio PhoneMate, Inc.*, 166 F. Supp. 2d 1237, 1246 (N.D. Ill. 2001); *Kemco Sales, Inc. v. Control Papers Co., Inc.*, 208 F.3d 1352, 1364 (Fed. Cir. 2000).

The '195 patent discloses "obtain[ing] from X and Y accelerometers . . . two resolved components of the gravity vector" (referred to as A_x and A_y). Similarly, the SPE paper discloses the use of a single accelerometer to "sense[] a component of gravity on the two sensitive axes." Specifically, consistent with the '195 patent, the SPE paper's accelerometer takes gravity readings on the X and Y axis (also referred to as A_x and A_y).⁶

Since the SPE paper's single accelerometer performs the identical function of the multiple accelerometers in the '195 patent, and there is no substantial differences with regard to the structure, the elements are equivalent for the purposes of means-plus-function claim language. Therefore, under Gyrodata's construction (as well as under Gyro Tech's construction), the SPE paper (in conjunction with the Ferranti tool) discloses all of the claimed limitations in the '195 patent.

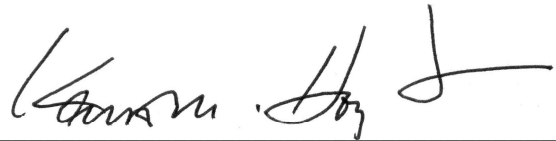
⁶ The ability of a single accelerometer to take multiple-axis readings was discussed in Kohler's testimony. Specifically, he stated, with regard to claim 53(a)(iv), "you need two readings. And those can be obtained with two single-axis accelerometers or one single-axis -- single-axis accelerometer that's rotated to the two different positions"

VI. CONCLUSION

Based on the above discussion, the Court hereby DENIES Gyrodata's application for a preliminary injunction.

It is so **ORDERED**.

SIGNED at Houston, Texas this 22nd day of December, 2009.

A handwritten signature in black ink, appearing to read "Kenneth M. Hoyt", written over a horizontal line.

Kenneth M. Hoyt
United States District Judge